

ON THE
RISE AND PROGRESS
OF
RATIONAL MEDICAL EDUCATION
IN
BENGAL,
BEING AN
INTRODUCTORY LECTURE,
Delivered on the 15th June 1860,
ON THE
OPENING OF THE TWENTY-FIFTH SESSION
OF THE
MEDICAL COLLEGE OF BENGAL.

BY
W. C. B. EATWELL, M. D.,

SURGEON, H. M.'S BENGAL ARMY,

*Member of the Royal College of Physicians of London. Fellow of the Linnean Society.
Member of the Senate of the Calcutta University. Principal and Professor of
Materia Medica and of Clinical Medicine, Medical College of Bengal.*

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GENTLEMEN,

IN all undertakings there arrive periods, when it is useful to submit to careful scrutiny the results obtained : when it is desirable to look back upon the past :—to review the progress that has been made :—to ascertain how far anticipations have been realized :—to estimate at their true value the results obtained :—and from a dispassionate review of the past, to form an estimate of the prospects of the future.

The present moment appears well fitted for such a review of the progress of rational medical education amongst the people of this country, and I have accordingly determined to devote this lecture to a consideration of this subject. The question however, when considered in all its bearings, is very extensive, and I cannot hope to do more than deal with it in a general way.

It will appear evident to you, that the only means by which a just estimate can be formed of the real value of the modern system of medicine, which this College has been mainly instrumental in introducing, is by comparing it and its results, with the systems which preceded it. In order therefore that we may be in a position to do this, I propose to deal with our subject on the following plan. I will in the first instance lay before you a sketch of the Hindoo and Mahomedan systems of medicine.

I will, secondly, describe the actual condition of the healing art as it existed in the Bengal Presidency at the commencement of the present century.

I will, thirdly, enumerate the measures which have been adopted by Government for introducing the modern system of medicine, as taught in Europe and in the whole civilised

I will, fourthly, state the results which have followed those measures, and finally, from the experience of the past, I will endeavour to estimate the prospects of the future.

There are in India two classes of medical practitioners, deriving their knowledge from distinct sources. One class, known under the name of "Koberajes," consists of the descendants or disciples of the original Hindoo physicians of the country; the other class, termed "Hakims," are the descendants or disciples of the Mahomedan physicians, who entered India with her Mussulman Conquerors. The Hindoo practitioners derive their knowledge from the Hindu Medical Shastras and works founded on them; the former writings containing a system of medicine which appears to have originated in India itself.

The Mussulman physicians follow the teaching of the masters of the great Arabian School, which was founded at Bagdad by the Arab Caliphs during the fourth century of the Christian era.

I will advert briefly to each of these systems.

The Hindoo system of medicine originated in the Ayur Veda,¹ a composition of great antiquity, to which a divine authorship is attributed by Hindoos, and of which portions only have been preserved in the writings of commentators. According to Hindoo belief, the Ayur Veda was communicated to mortals by Brahma² and was a supplement to the Atharva³ Veda, the fourth of the original sacred Vedas. The four sacred Vedas are said to have proceeded from Brahma, and to have been given to man during the Shuttu Juga⁴ (the age of truth) or the golden age of Hindoo Mythology. During this age man was truthful,

¹ Ā'yoor vay'dā आयुर्वेद

² Brōh' mā ब्रह्म

³ Ō'thārva vā'dā अथर्ववेद

⁴ Shō'th jāg' Sahasrabhārah सप्तयुग

pure, and happy, and the sacred Vedas contained all that was necessary for his guidance in that state. But to this age of Truth, there succeeded other ages, in which man fell from his state of original perfection and moral excellence, and as a consequence became a prey to disease. It was under these circumstances that Brahma, with the view of enabling him to alleviate the sufferings to which he had become subject, composed the Ayur Veda. But in the first instance, the art of Medicine was practised in heaven itself. Dakhsa,¹ the father of Durga, having learned the Ayur Veda, instructed the two Ashwins, the offspring of the sun, in its precepts, who then became the Medical attendants of the gods. The communication of the Ayur Veda to mortals was made to Bhurrutdhuj Muni,² a sacred sage, who visited heaven for the purpose of learning its precepts. On his return to earth, he communicated what he had learned to other sages, and six of them committed to writing the precepts of the sacred work. The best work was said to have been that of Agnibesa,³ which, after being corrected by Charaka,⁴ received his name. This it still bears, and is the most ancient, and most esteemed of the Hindoo Medical Shastras.

The work of Dhunnunteree⁵ is of nearly equal antiquity and the history of it is equally fabulous. The author is stated to have been instructed in the Ayur Veda, by Indra, in heaven, and afterwards to have visited the earth and become king of Benares. There, he practised his art and instructed disciples in its precepts. Of these disciples, Susruta⁶ was the most distinguished. He committed to

¹ Döck'shā

दक्ष

² Bhō' rō' dwāj

भरद्वाज

³ Ögnce' bay' shā

अग्निवेश

⁴ Chaū' raū'kă

चरक

⁵ Dhūn'untēē

धुन्नन्तरी

⁶ Sūsruta

सुसुत

writing the precepts learned from his teacher, and his work (which has been preserved) is after that of Charaka, the most ancient and venerated of the Medical Shastras. Charaka was chiefly esteemed as a Physician, and Susruta as a Surgeon. Such then is the fabulous account given of the origin of Hindu Medicine, and Professor Wilson has pointed out the resemblance which it bears to the mythological origin of Greek medicine, in which Esculapius, the reputed son of Apollo, and his two sons, Machaon and Podalirius, bear a close analogy to Daksha, the preceptor of the two Ashwins, the offspring of the sun. No precise date can be assigned to the Hindu Medical Shastras. The Physicians of the Arabian School who wrote during the eighth century, quote Charaka and Susruta, and it is certain that the original Ayur Veda must have been of very much older date, and about 900 years before Christ has been given as the probable date of its composition.

According to Professor Wilson, this work was divided into eight parts.

The first part included the art of extracting foreign bodies from the human frame, and the treatment of the subsequent inflammatory symptoms to which they give rise: likewise the treatment of inflammatory swellings and abscesses.

The second part included the diseases of external organs.

The third part included the treatment of general diseases as Fevers, Dysentery, &c.

The fourth part treated of the cure of diseases caused by the wrath of the gods, of demons, and of the spirits of the dead.

The fifth part treated of the diseases of women and children, including puerperal complaints, and disordered lactation.

The sixth part described the antidotes to poisons, and

The seventh part treated of Alchemy and Chemistry, the end of which was the discovery of an elixir, which should render life perpetual.

The eighth part described the mode of treating derangements of the generative organs and functions, with the view of increasing the human race.

These writings shew, that at least ten centuries ago, and probably so long as twenty-seven centuries from the present time, the arts of medicine and surgery were practised by the early Hindoos, not blindly and empirically, but systematically and founded, at least to a limited extent, on science.

It appears certain that dissection of the human body was practised by the earliest Hindoo Physicians, although in such a rude manner, as could only have yielded imperfect results.

The body to be operated on was placed in water for 7 days and allowed to putrify. It was then subjected to a hard stiff brush made of bamboo or hair, by means of which the skin was rubbed off, and the subjacent parts exposed. By such means, it must have been impossible to obtain a correct knowledge of the vascular and nervous systems, or even of the muscular system, whilst the putrid condition of the body must have made the operation of dissection disgusting and dangerous to the anatomist. Accordingly, the bones appear to have been the only organs of which the old Hindoo writers had a correct knowledge. The nerves were mixed up and confounded with tendons and ligaments:—the number of muscles enumerated by them is incorrect; whilst the blood vessels are the simple fruits of imagination. Thus, the navel is constituted a centre from which a vascular system including 40 principal vessels is stated to have its origin, these vessels being destined to convey blood, air, bile, and phlegm to all

parts of the body. This fanciful idea evidently originated in the circumstance of the navel being the channel of vascular communication between the foetus in utero and the mother. On this erroneous Anatomy and Physiology was founded a pathology equally false, and disease was made to depend on derangements of the four humors and elements above mentioned; when not so produced, it was supposed to result from the influence of the gods or evil spirits.

It is impossible to avoid associating this description of the nature of disease with the humoral pathology of Hippocrates, and it has been hinted that, the early Hindoos may have borrowed from the Greeks. This however appears improbable, and it is rather to be conjectured that the Greeks either borrowed from the Hindoos or that both derived their information from some independent source.

That the Greeks possessed a knowledge of Hindoo learning generally, before the time of Hippocrates, appears certain; since Pythagoras, who lived 500 years before the Christian era and nearly a century and a half before Hippocrates, visited India, and took thence the doctrine of Metempsychosis. The art of surgery was carried by the old Hindoo practitioners to a point which may well excite surprise, when we compare it with the indigenous surgery of the present day.

In the old writings, four modes of arresting hæmorrhage are described: namely, by astringents, by ice, by caustics, and by the actual cautery.

The treatment of fistulæ, by laying them open and cauterising the wound, is given. Rules are laid down for the performance of cupping and venesection. Surgical instruments are systematically described and classified.

Bandages, as applicable to different parts of the body, are enumerated. The diagnosis of fractures by crepitation

and their treatment by means of bamboo splints and bandages are described : also the treatment of dislocations by extension. The mode of renewing the nose ; the operation of lithotomy by cutting on the gripe, and the operation of cataract are all described in the old Hindoo works.

With much that is erroneous, it cannot be denied that this system of medicine and surgery of which the very date is lost in antiquity, contained a portion that was truthful and valuable.

It was moreover actually based on practical anatomy, and it only required that zealous followers should have prosecuted dissection, with improved means, to have revealed the whole truths of that science, and have dissipated the errors which had been thrown around it. Such however was not the case. Hindoo medical science would appear to have reached its culminating point, when these earliest records of its history were written, and it has subsequently undergone a great decline :—a decline so marked, that the art of surgery may be said to have become well nigh extinct.

Considering the great importance of human dissection, as the only means of revealing the conformation of the human frame, and the distinct manner in which it is enjoined by the earliest Hindoo authorities, it is of much interest to ascertain how it came to fall into disuse. On this point, I have been favored with the following information by a Hindoo gentleman* of much learning:—"We learn," writes my informant, "from the Susruta, that in early times the Professors of Medicine in India used to dissect dead bodies. The dissections however were managed in a rude way. The dead bodies were kept under water for some days, and when they had undergone mortifi-

* The Pundit Isser Chunder Bidyasagar.

cation, they were taken out and dissected with instruments which of course were very rude; contact with dead bodies was sinful in the eye of the Shastras, but expiation was secured by simple means, such as ■ bath, worship of the sun, &c. In the course of time, such contact required more severe atonements. A person who touched ■ dead body was considered impure, and the impurity lasted for the time prescribed in the Shastras for mourning for death, which according to the caste of the deceased varied from 10 to 30 days. In the absence of authentic records, it is difficult to account satisfactorily for the disuse into which dissection has fallen; but it may be assumed that it is chiefly owing to the rigidity of the penance enjoined in later days especially as from the rude way in which dissection was conducted, it was of little advantage to the person practising it."

Let us now consider briefly, the system of medicine and surgery introduced into India by her Mohammedan Conquerors.

This system was derived from the Arabian school, which flourished under the Caliphs at Bagdad, between the years A. D. 767 and A. D. 1248.

The period during which this school flourished was that of Europe's degradation. The Western empire had been completely overrun, and her civilisation trampled into the dust by hordes of Northern barbarians. The Eastern empire was agitated by those factions within, and experiencing those assaults from without which eventually (in 1235) led to her fall. Egypt had been conquered by the successors of the Prophet, and her great School of Alexandria destroyed:—its magnificent library having served for months as fuel for the public baths of the city. Bigotry and intolerance reigned supreme amidst the gloom of the dark ages, and

resting place. It was under these circumstances, that the Arab Caliphs became her protectors. They founded at Bagdad a school, to which men of science from all parts repaired; and in which, amongst other sciences, that of medicine found shelter and encouragement.

The great masters of the Arabian School of medicine were Geber,¹ Serapion, Rhazes,² Haliabbas,³ Albucasis,⁴ Mesue,⁵ Averroas,⁶ Avenzoar,⁷ and Avicenna,⁸ the last named remaining to this day the first medical authority of the East.

The doctrines preserved and taught in this school were those of the Grecks. No attempt was made to advance the science of anatomy by dissection, but the fruits of the labors of Galen, and of the still greater anatomists of the school of Alexandria, were at least preserved. The system of medicine taught was the Hippocratean,—based on ■ humoral pathology, which referred all diseases to changes in the humors (blood, phlegm or pituita, yellow and black bile,) a pathology, whose remarkable resemblance to that of the old Hindoo writers, has already been pointed out.

Surgery, at the period to which we are now referring, appears to have fallen to a very low ebb.

Thus, Albucasis in writing on medicine at that time, added to his work ■ short supplementary treatise on Surgery, stating that he did so, because that branch of medical

¹ Jabir Ibn Hajjan.

² Abū Bekr Mohammed Ibn Zacariya Ar Razi.

³ Ally Ibn Abbas.

⁴ Abul Kasim Khulufe Ibn Abbas ool Zuhralee.

⁵ Abū Zacariya Yoohunna Bin Masawiah.

⁶ Abul Walid Mohammed Ibn Ahmed Ibn Roshd.

⁷ Aboo Merwan Abd-al Malek Ibn Zoohr.

⁸ Aboo Ally-ool Hossain Bin Abdoolah Bin Saina.

science was so much neglected in his country at the time at which he was writing, that there scarcely remained any vestiges of it.

He described blood letting, the actual cautery, and many formidable operations, but after stating the necessity of ■ knowledge of anatomy ■ the part of the surgeon, he merely recommended the study of the works of Galen on the subject.

It is certain that, the Arabian physicians were acquainted with the old Hindoo authors, since Charaka and Susruta are both quoted by them; moreover, Hindoo physicians were actually employed at the court of the Caliphs.

It was the doctrines of this school therefore, which were taken to India by her Mahomedan conquerors.

I am not aware that, the early Mahomedan conquerors of India adopted any special measures for spreading the medical science of the Arabian school amongst the conquered race.

The Emperor Akbar would appear to have founded a school at Agra, but this was at ■ comparatively recent date. That powerful and wise Prince is stated to have patronised the erection at Agra of an hospital and also of a medical school. In the former, two Physicians of celebrity, named Hakeem Wazeer Khan and Hakeem Musseeh-ooz-Zuman, attended and instructed pupils. In the medical school, in addition to the teaching of the above Hakeems, Moulvees were in the habit of expounding to the pupils the Arabic works on medicine.

The Emperor Shah Jehan is also stated to have invited celebrated physicians from Persia to his court at Delhi, and to have greatly encouraged the pursuit of medical science. Darroo shuffas, or hospitals, are stated to have been instituted also at other places (as at Hyderabad) during the reign of the late Mohammedan emperors.

However, whatever may have been the course of former rulers, the condition of medicine and surgery at the time of the country passing under the British control was on the whole degraded in the extreme, and I may add still remains so, as far as the masses ■■ concerned. A very truthful picture of its condition just half ■ century ago exists in the report of Dr. Francis Buchanan, of the results of his survey of the provinces subject to the Bengal Presidency, undertaken in the year 1807 by order of the Honorable Court of Directors.

The results of Dr. Buchanan's personal investigations are given in the work edited by Mr. Montgomery Martin, and entitled "The History, Antiquities, Topography and Statistics of Eastern India," from which I will quote passages in illustration of my subject.

Speaking of the province of Behar, Dr. Buchanan as quoted by Mr. Martin states :—

"Medicine is taught by several of the Pundits, some of whom also, although they are Grammarians practice the art. The books on medicine chiefly studied in these districts are the Saranggadhar, Babhat, and Chakradatta.

Saranggadhar was the son of Damodar, ■ Brahman, but where he lived I cannot learn. Babhat and Chakradatta are also the names of the authors, but the people know nothing of their history. Among the Mohammedans, the practitioners of medicine, who study Arabic are usually called yunani, as the science of medicine was introduced among the Arabs by bad translations of the Greek authors which are still much studied. A small part only of the practitioners understand Arabic, and the greater part of them content themselves with translations of Arabian authors into the Persian language, and many I suspect understand very little ■■■ of these. They are generally educated as private pupils, attaching themselves to some

“ Besides the Professors of medicine, about 700 families of Brahmans, almost all of Sakadwip practice that art and are the only Hindoo physicians who possess any thing like science, except three of the medical tribe from Bengal, who have settled at Patna, and about 60 Mohammedans, chiefly at Patna and Daudnagar. It is only in a few places that there are any of those who practise medicine without some sort of learning, and without books.

“ There are about 150 Jurrahs or barber Surgeons who cup, bleed and treat sores. The midwives are of the lowest tribes and merely cut the umbilical chord.

“ The low people called Ajha, who cast out devils, cure bites of serpents and oppose witchcraft by incantation, are not so numerous in proportion to the population as towards the east; but still there are a vast number, and in general each confines himself to one branch of the profession. About 2,500 pretend to cure bites of serpents, and 2,300 pretend to oppose the devil and witches.”

“ The Ajhas do not attempt to cure any disease except such as are attributed to devils and witches.”

In Bhagulpore, Dr. Buchanan found medicine in a somewhat more advanced state than towards the East.

He states “ about 270 Sakadwip Brahmans and a few Maithilas practise medicine. They in general know more or less of Sanskrita and have some books treating on diseases and remedies, and written in that language. A great part is committed to memory, and a slôk or couplet is in all occasions quoted as of divine authority, to remove all doubts and to astonish the multitude, who do not understand a word of it. The practitioners who exhibit medicine without having books, and in general without being able to read or write are called by various names as in Puraniya. In the whole district, there may be of such 600, some of whom are old women. In the chief towns are

treat sores and draw blood both by cutting ■ vein and by ■ imperfect cupping." "The low people who cast out devils, cure diseases and the bites of serpents and oppose the influence of witch-craft by incantation, are exceedingly numerous." "On the whole there may be 15 or 16 hundred persons who pretend to ■ knowledge of this mum-mery."

Regarding the district of Gorruckpore our author writes:—

"The Hindus who practise medicine amount only, so far as I heard, to 43 persons, of whom by far the greater part consist of Sakadwipi Brahmans. Three Mahommed-ans are followers of what they call the doctrine of Galen and Hippocrates." "Between 20 or 30 people who have no books on medicine, and if they had could not read them, exhibit drugs in disease and are called Nardekhas or pulse feelers, for the ceremony of feeling the pulse is in all cases considered as absolutely necessary. There are between 50 and 60 Surgeon barbers who cup, bleed, and treat sores, and some at Goruckpore are said to extract the stone from the bladder in the old manner."

In this district also, were 1,450 men, who pretended to cure the bites of serpents and to cast out devils in diseases dependent ■■ them, by means of incantation.

Of Dinagepore, our author writes:—

"No person teaches medicine in this district, and indeed proper physicians are very few in number. In all cases of sickness trust is chiefly placed in prayers and sacrifices, and in certain magical incantations that are considered ■ effectual."

In Puraniya, medicine is represented as being in rather ■ more creditable state than towards the East. In the district of Rungpore, it is described ■ being at ■ low ebb, witchcraft and incantations apparently prevailing to a great extent.

The above descriptions afford ■ vivid picture of the condition of medicine and surgery in Bengal and Behar half a century ago. The comparatively few educated physicians were more or less versed in antiquated doctrines, which in Europe had long been exploded. The only surgeons were barbers or old women, who attempted nothing more than the most trifling operations of minor surgery, and although there was occasionally met one, who practised the operation of cataract or cutting for the stone on the gripe, such operators were entirely without the knowledge which alone renders the practice of surgery safe or permissible, whilst in ■ vast number of cases the healing art was in the hands of ignorant impostors, who professed to cure disease by incantation.

It was not until the year 1822 that the English Government made any systematic attempt to impart medical instruction to the natives of this country, and it was then only to those who were destined for employment in subordinate positions in its service. Previous to that time, natives of the country had been trained in the different hospitals under European superintendence, as Native Doctors (as they were termed) and in this manner had become acquainted with the general aspect of disease, and with the European modes of treatment, but they obtained no systematic education, and could not be regarded in any other light than as trained hospital assistants. In 1822, the Government established ■ Medical School, named the Native Medical Institution, for training Native Doctors. The school ■ placed under the control of ■ European medical officer who was aided by native assistants. Information ■ communicated through the medium of the Oordoo language, both ^{by} means of lectures and by short treatises in Oordoo ■ anatomy, medicine and surgery, which were prepared and translated by the super-

intendent. In these treatises, the scientific nomenclatures employed in Europe were rendered into Arabic. Dissection of the human body was not however attempted, and the only practical information on this subject was obtained from the dissection of the lower animals, and from the post mortem examinations of persons dying in the General Hospital of Calcutta which the students of the Native Medical Institution were permitted to witness. In the year 1826 ■ further effort was made by Government to extend medical education by the institution of a medical class at the Calcutta Sanscrit College, and by a similar class at the Calcutta Madrussa.

In the Medical class of the Sanscrit College, the works of Charaka, Susruta and other old Hindoo writers were read, together with the medical treatises in Oordoo which had been prepared for the Students of the Native Medical Institution, whilst in the Medical class of the Madrussa, the works of Avicenna and other physicians of the Arabian school were studied, together with the same Oordoo treatises. In neither of these classes was dissection attempted. It was hardly to have been anticipated that any really great results could have followed these first feeble efforts, to bring forward the great truths of modern European science wedded to the false systems of by gone ages, more especially since practical anatomy (that only basis on which ■ structure of medical science can be safely founded) had not hitherto been attempted. Accordingly, in 1833, Lord William Bentinck (at that time Governor General of India) appointed ■ Committee for the purpose of enquiring into the condition of the then existing medical institutions and of revising the whole question of native medical education. This committee comprised the following gentlemen :—

Surgeon J. Grant Apothecary General

J. C. C. Sutherland, Esq., Secretary to the Education Committee; C. G. Trevelyan, Esq., Deputy Secretary Political Department; Assistant Surgeon Spens, Body Guard; Assistant Surgeon Bramley, Marine Surgeon, Baboo Ram Comul Sen.

The labors of this Committee extended over twelve months, and on the 20th October 1834, they forwarded to Government an elaborate report on the subject committed to them for investigation. The obstacles to the introduction of necessary changes which they met, did not however proceed alone from the prejudices of the natives, but the committee had to encounter serious differences of opinion amongst the most experienced of the European teachers of the day. These differences had reference to the question, whether the study of Sanscrit and Arabic should be still continued in connexion with medicine, or whether these languages, as well as the Vernaculars should not be discarded and English adopted as the sole medium of instruction. The Orientalists, ■ they may be termed, were represented by Dr. Tytler, the Superintendent of the Native Medical institution, ■■ able oriental scholar; whilst the Anglicists may be said to have been represented by the Rev. Dr. Duff, the able and excellent head of the Free Church of Scotland's Institution. The arguments brought forward by these gentlemen on either side are reviewed at length by the committee in their report, and they are of deep importance in their bearing on the establishment of sound Medical education in this country.

I regret, however, that the limited time allowed for this lecture will not permit of my stating them in detail. The committee happily adopted the English view of the question, and their opinion was expressed in no ambiguous terms. "A knowledge of the English language," said they "we consider as a *sine qua non*, because that language combines

within itself the circle of all the sciences, and an incalculable wealth of printed works and illustrations, circumstances that give it obvious advantages, over the oriental languages in which are only to be found the crudest elements of science, or the most irrational substitutes for it."

In direct opposition to the views of the orientalists, they urged the following arguments:—"The advocate for the substitution of the English language, on the other hand, will doubt whether the whole stores of Eastern literature have enabled us to ascertain a single fact of the least consequence towards the history of the ancient world, whether they have tended to improve morality or to extend science, or whether, with the exception of what the Arabian physicians derived from the Greeks, the Arabic contains ■ sufficient body of scientific information to reward the modern medical student for all the labour and attention that would be much more profitably bestowed on the study of the English language, and lastly, whether, the modicum of unscientific medical literature contained in the Sanscrit is worth undergoing the enormous trouble of acquiring that language."

"Unlike the languages of Europe, which are keys to vast intellectual treasures bountifully to reward the literary enquirer, those of the East, save to ■ limited extent in poetry and romance, may be said without exaggeration to be next to barren. For history and science then, and all that essentially refines and adorns, we must not look to oriental writers."

The necessity for the dissection of the human body ■ a basis of any efficient system of medical education was also insisted on.

The Committee prefaced their recommendations by the following words:

“ The scheme of reform too, we would respectfully submit to your Lordship ought to be ample, comprehensive, and worthy of ■ great Government, not intended merely to supply the wants of the State, but of the people, and to become what it may confidently be expected it will,—a moral engine of great utility and power.” The recommendations themselves were comprehensive and radical. The committee advised the immediate abolition of the Native Medical Institution and the medical classes at the Sanscrit College and at the Madrussa, and the formation of a Medical College for natives, in which the various branches of Medical science cultivated in Europe should be taught, and ■ nearly as possible on the most approved European system, the basis of which system should be a reading and writing knowledge on the part of the candidate pupils of the English language, and a like knowledge of Hindustani or Bengali and a knowledge of arithmetic. The arguments and recommendations of the committee ~~were~~ accepted by Lord William Bentinck in their fullest extent, and on the 28th January 1835, His Lordship in Council issued an order abolishing the Native Medical Institution together with the medical classes in the Sanscrit College and in the Madrussa, and decreeing that ■ new College should be formed “ for the instruction of a certain number of native youths in the various branches of Medical science.” The order provided that, the college should be open to all classes of native youths between the ages of 14 and 20, without exception to creed or caste, provided they were respectable in conduct and connexion, and could read and write English and Bengalee or English and Hindustanee. It moreover provided that instruction should be communicated through the medium of the English language, and in strict accordance with the mode adopted in Europe.

instance entrusted to an European medical officer ■ superintendent with one assistant: Doctors Bramley, and H. Goodeve, having been selected respectively to fill these appointments. It was however found during the first year of the existence of the college that such a staff was quite inadequate for giving instruction in the whole of the subjects connected with medicine, and a third officer, Dr. W. B. O'Shaughnessy, was added to the instructive establishment. At the same time, the title of superintendent was changed to Principal and that of the Assistants to Professor. The great question on which the success of the institution was felt to depend, however still awaited solution. Had the progress of enlightenment amongst educated natives proceeded to such ■ point, as to enable them to rise superior to prejudice and adopt the only means of obtaining a correct knowledge of the constitution of the human frame? This was the question. The answer was not long delayed. On the 10th January 1836, the Pundit Madhusudun Goopta, a Hindoo of the Boido caste, who had filled the post of medical teacher in the abolished class at the Sanscrit College, and who was well acquainted with Sanscrit medical literature, practised with his own hand the dissection of a human body. Thus was the barrier, which ignorance and superstition had for ages opposed to the acquirement of ■ correct knowledge of the wondrous mechanism of the human frame broken down by this courageous man, and a way opened for his countrymen, to the acquirement of one of the noblest and most elevating sciences which ■ occupy the human intellect, and that on which alone can a rational system of medical education be based. The example of Madhusudun was at once followed by others, and thenceforth the success of the college was rapid and substantial. Within the short space of two years, so satisfactory had been the results, that the Government added three additional Professors and ■ de-

monstrator of Anatomy, and four years later, ■ fourth additional Professor was added to the college staff. In the year 1844, or nine years from its foundation the means of instruction had become so complete, that the College was enabled to frame its curriculum to meet the requirements of the Royal College of Surgeons of London, the University of London, and the Apothecaries Company, and two years later (in 1846) the Calcutta College was finally recognised by those bodies. Further additions were made to the educational staff, until in the year 1856 it numbered ten (10) Professors delivering lectures on the whole of the subjects usually taught in the large medical schools of Europe. It was however found, after the experience of ■ few years, that although it was possible to give a first class medical education through the medium of the English language, the number of students who presented themselves was limited; and that in order to supply the strictly subordinate class of native doctors, and to bring the means of medical instruction within the reach of the masses, who were for the most part entirely ignorant of the English language, it was necessary to maintain in connexion with the College, ■ secondary school, in which medicine and surgery should be taught through the medium of the Vernaculars. Accordingly, in 1838 a Hindustani class was opened, for the education of native doctors, in which Anatomy, Materia Medica, Medicine and Surgery were taught in Oordoo, the original scientific nomenclatures however being retained. The pupils were required to dissect, were taught entirely on European principles, and were employed at the same time in practical hospital duties.

In 1852 a Bengali class was added, in which the same standard of education was communicated through the medium of the Bengali language. This class was intended to furnish native doctors for the civil hospitals of Bengal.

and also to afford through the medium of the Bengali language, to all desiring it, a sound medical education, based on the truths of science.

Whilst the means of imparting systematic information were supplied, those of practical teaching were not neglected, and a magnificent hospital was attached to the College,* in which and in its annexed dispensaries, the fullest opportunities were afforded of studying disease in its every form. From the time of its foundation to that of the formation of the Calcutta University in 1856, the Medical College enjoyed the privilege of granting a Diploma in Medicine and Surgery.

That power however ceased with the establishment of the University, which thenceforth granted its own degrees of "Licentiate in Medicine and Surgery" and "Doctor of Medicine." The amount of study required of students who obtain those degrees is greater than is demanded by the London University, the examinations on which the degrees are granted being equal in scope to those of the London University, for its B. A. and M. D. degrees.

Thus, within twenty-five years from the commencement of the experiment, it has been found possible, not only to educate native youths in the science of medicine, through the medium of the English language, and in strict accordance

■ During the 12 months ending 30th April 1860, 2,181 European and 2,519 patients, have been admitted into the wards of the Medical College hospital, and 120 operations have been performed on patients in the surgical wards.

In the out-door Dispensaries attached to the hospital during the same time, 14,292 men and 4,668 women and children (Europeans and natives) have received treatment, ■ whom 1,047 minor operations have been performed.

In the Eye Infirmary, included in the hospital, 528 in-door patients and 2,442 out-door patients have been treated, ■ whom 183 operations have been performed.

with the mode adopted in Europe, but it has been found that the qualifications of the students so educated have been such, as to entitle them to the honorable distinction of an University degree.

Moreover, a limited number of students so educated have proceeded to England, and obtained there the degrees of the British Schools and have in several instances entered the covenanted medical service.

The supposed objection to practical anatomy has long since vanished.

✓ In no dissecting rooms in the world do greater facilities exist for following that noble science, and in no school perhaps is dissection carried out on a larger scale. Nor must we lose sight of the fact, that Brahmins have been equally forward with those of lower castes in the pursuit of this, ■ of the other sciences on which the art of medicine is founded.

There are at present in the service of Government, 85 Sub-Assistant Surgeons who have been educated in this college, and who are employed throughout the country, in Bengal, the North West Provinces and in the Punjaub.

Some of these officers are in medical charge of small stations and jails, though the majority are in charge of Charitable Dispensaries. In these dispensaries, are usually employed one or two native apprentices, so that these institutions are not only the means of affording relief to the sick, but are to some extent instrumental in disseminating medical knowledge, and may be regarded as the nuclei of subordinate medical schools.

I have no means of estimating the total number of Sub-Assistant Surgeons who may be in private practice and unconnected with Government, throughout the country, but I have ■ list of 20 who ■■■ thus practising in Calcutta alone. Of these, I am led to believe that about one fourth

realise from Co.'s Rs. 500 to Co.'s Rs. 600 a month, whilst the others realise about 200 Rs. monthly.* Of students educated in the Bengali class there are 62 in the employment of Government as native doctors, whilst a considerable number of individuals who have been educated in this class are scattered over Bengal practising as private practitioners, and as I am aware, in some instances realising from Co.'s Rs. 100 to Co's Rs. 150 per mensem.

Of students educated in the Hindustani class, there were at the date of the last return 330 in the service of Government. These were employed throughout the Presidency, and in all places where Bengal troops were located. The greater portion of them were with regiments, but some were in civil hospitals.

Although Calcutta has been the great centre of medical education in the Bengal Presidency, it has not been the only place where it has been carried out. A medical school has been established at Agra, in which dissection is practised, and in which medical science though imparted through the medium of the Vernacular is still taught in accordance with European principles. A medical school has also been inaugurated at Lahore.

Such then is a rapid sketch of the rise and progress of medical education on this side of India, and it may be said that, such progress in so far as it has been efficient and useful is inseparably connected with this institution. The results obtained, let them tend whither they may (and I sincerely believe they must lead to immense benefit to the natives of this country) are due in the first instance to

* It is worthy of prominent notice that, the graduates of the Medical College thus employed as private practitioners in Bengal stand forward conspicuously as promoters of General education amongst the people, a fact which has been recently communicated to me by Mr. Woodrow, the Inspector of Schools in Eastern Bengal.

the enlightened philanthropy and liberality of Government, and in the second instance to the exertions of the able and zealous men who have preceded us in this College. The names of Bramley, Goodeve, O'Shaughnessy, Mouat, Raleigh, Jackson, Stewart, Wallich, Griffith, Falconer, Walker, Webb, must ever remain associated with the rise of the Medical College, and with the establishment of rational Medical education in Bengal. I am aware that we are not without discouragements, and that short comings may be pointed out, but when I contemplate the condition of the healing art as it existed universally throughout Bengal 50 years ago, and consider its utterly degraded state, I cannot but feel that much has already been done towards elevating it to a fitting position.

There is not one of the hundreds of students who have entered our dissecting rooms during the past 24 years, who must not have satisfied himself by actual observation of the utter falsity of that old Hindoo system of Anatomy and Physiology, which I have already described, and at the same time have felt the consequent absurdity of the system of pathology founded on it. There is not a student who has left the college on the completion of the prescribed period of study, who has not carried with him an amount of knowledge, which has enabled him to assure himself of the comparative *ignorance*, as tested by the facts of modern science, of the greatest of the masters of Greek and Arabian medicine. There is not a Sub-Assistant Surgeon in charge of a dispensary, who does not constantly perform with confidence and safety, operations which the boldest of the Arabian Surgeons would not have attempted, or have been justified in attempting. But although the results already obtained are great when taken in connection with the previous state of things, they are small in the extreme with reference to, what remains to be done. Considering

however the immense mass of ignorance and prejudice to be dealt with, the progress of enlightenment must of necessity be slow. It would be unreasonable to suppose that it should be otherwise, and provided we are assured that the system which we are carrying out is sound, we must be content with moderate results. That the whole scheme of education which has been inaugurated in this College is *thoroughly* sound, I feel perfectly satisfied.

When then we consider, how elevating is the study of Anatomy and Physiology, and of the Natural and Physical sciences on which the whole art of medicine is based, how exalted are the notions which those sciences give of the wisdom and power of the Omnipotent Creator of the Universe:—when we reflect how incessantly are the best qualities of man's moral nature called forth in the exercise of the profession of medicine, and when we finally bear in mind how inestimable is the benefit conferred on the community at large by the exercise of that profession, we are fully justified in saying in the words of those who promoted the foundation of this institution, that in the Medical College there *has been established*—“a moral engine of great utility and power,” not merely useful in supplying the wants of the State, but instrumental in elevating and at the same time benefitting the people of the country at large. That the benefits so conferred may be real and lasting, it will be necessary that you, whom I am now addressing, and that those who may follow you, show yourselves worthy of the profession which you have adopted. The high professional education given to you here affords you the means of securing not only a competency, but of acquiring wealth, whilst it entitles you to honorable employment in the service of the State in situations of respectability and importance.

Bear in mind that, in order to fulfil your deeply responsible duties faithfully and creditably, it will be necessary that you follow without deviation a strictly regulated line of conduct. In your intercourse with your fellows be truthful and honorable; in the discharge of your duties be punctual and conscientious; and in your dealings with those who may entrust their lives to your care, be humane and considerate.

Bear in mind that, your profession is entrusted to you, not alone for the purpose of amassing wealth, but for the great end of benefitting your fellows.

In no case turn a deaf ear to the suffering, and whilst you demand from the affluent a proper remuneration for your services, cheerfully give to the poor the benefit of your advice without further recompense than that which springs within the heart, from the performance of a good deed.

Had time permitted, I would have spoken to you of your duties as students, but I believe that this omission will be amply rectified by your Professors in their several introductory addresses. On the present occasion, I will content myself with assuring you that, without unremitting diligence and application you will fail to attain that standard, which you will be expected to reach before you can be permitted to practise your profession: and further that, on the amount of information which you may treasure up during your College career will your success in after life and the welfare of your patients depend.

